

## TASK 1:

```
import pandas as pd
```

```
import numpy as np
```

```
import matplotlib.pyplot as plt
```

```
import seaborn as sns
```

```
# Replace with the actual paths to your datasets in Google Drive
```

```
customers = pd.read_csv('Customers.csv')
```

```
products = pd.read_csv('Products.csv')
```

```
transactions = pd.read_csv('Transactions.csv')
```

```
# Explore the datasets
```

```
customers.head()
```

```
products.head()
```

```
transactions.head()
```

```
customers.info()
```

```
products.info()
```

```
transactions.info()
```

```
customers.describe()
```

```
products.describe()
```

```
transactions.describe()
```

```
# Handle missing values (if any)
```

```
# customers.fillna(method='ffill', inplace=True) # Example: Forward fill
```

```
# products.dropna(inplace=True) # Example: Drop rows with missing values
```

```
# transactions.fillna(0, inplace=True) # Example: Replace with 0
```

```
# Convert data types (if necessary)
```

```
# customers['SignupDate'] = pd.to_datetime(customers['SignupDate'])
```

```
# transactions['TransactionDate'] = pd.to_datetime(transactions['TransactionDate'])
```

Business Perspectives:

**1.Customer base is dominated by North America:** This indicates a primary market, as a substantial percentage of clients live there. Product offers and marketing strategies should be adjusted to suit the tastes of this area.

**2.Electronics have the highest average price when compared to other product categories,** yet sales are lower. However, because of their higher price point, they typically have lesser sales volumes. To increase sales in this sector, think about promotional tactics.

3.The quantity bought tends to decrease as product costs rise, indicating an inverse relationship between price and quantity. This implies that consumers are price sensitive. Optimize pricing tactics to strike a balance between sales volume and profitability.

4.There are seasonal trends in sales: Throughout the year, sales volume varies, with possible peaks occurring during particular seasons or holidays. Marketing initiatives and inventory control should be modified to reflect these seasonal patterns.

5.There are chances for cross-selling: There is potential for cross-selling or bundling methods when certain products are commonly bought together. The average order value can be raised by providing bundled discounts or making similar item recommendations at checkout.

Crucial Points to Remember: